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Flowering of *Agave nickelsiae*

Journal Item

How to cite:

Walker, Colin C. (2018). Flowering of *Agave nickelsiae*. *CactusWorld*, 36(4) pp. 290–291.

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Fig. 1 A mature plant of *Thelocactus tepelmensis* with offsets and flowers
(Photo: Greg Starr)

Fig. 2 The habitat of *T. tepelmensis*
(Photo: Tristan Davis)



A new species of *Thelocactus*

Thelocactus tepelmensis, a distinctive new species from northern Oaxaca, Mexico has been described in *Phytotaxa* in July 2018. According to the authors, the new species is closest to *Thelocactus leucacanthus* but differs significantly from this and other species in the genus by a combination of morphological characters. These are that the flowers are smaller and are red-purple; the stems have consistently vertical ribs; there are a lower number of spines per areole and they are usually shorter; the fruit is ovoid; seeds have a conjunct micropyle.

The new species was found in a narrow canyon growing on steep limestone rock faces which are protected from direct afternoon sun. The only known population appears to be locally common but geographically restricted. The new taxon, though more than 300km south of the southernmost known population of the genus, clearly belongs within *Thelocactus* according to the authors. One

commentator has suggested that this new taxon has little in common with *T. leucacanthus* but accepts that it is a *Thelocactus* and suggests that it may be an old stabilised hybrid between *Ferocactus flavovirens* and *Thelocactus leucacanthus* subsp. *schmollii*. He goes on to say that it is quite possible that the particular *Thelocactus* involved in this hybrid has disappeared.

As mentioned, the new species seems restricted, and it is worth noting that the locality is within the Tehuacán-Cuicatlán Biosphere Reserve, access to which requires special permission from the local communities, who are extremely vigilant against trespassers and so help to enforce the protection of the known population. Further study is required in order to determine if other canyons contain this species but in the meantime the conservation assessment should be regarded as 'Vulnerable'.

ACKNOWLEDGEMENT:

Tristan Davis and Greg Starr are thanked for providing photos.

LITERATURE:

Davis, T J, Hernández, H M, Starr, G D & Gómez-Hinostrosa, C (2018) A distinctive new species of *Thelocactus* (Cactaceae) from Oaxaca, Mexico. *Phytotaxa* **361**(1): 115–122.

Flowering of *Agave nickelsiae*

Previously in *CactusWorld*, I described the flowering of a 30-year-old specimen of *Agave victoriae-reginae* in my collection (Walker, 2017). I also discussed the close relatives of this architectural species, notably *Agave nickelsiae* (often still referred to under the synonym *A. ferdinandi-regis*). However, I omitted to discuss a

Fig. 3 *Agave nickelsiae* flowering in the cactus and succulent house at Glasgow Botanic Gardens (Photo: Colin C Walker)



significant difference between these two species, namely the difference in the size of their inflorescences.

Fortuitously in August 2018 I encountered a flowering plant of *A. nickelsiae* in the cactus and succulent house at the Glasgow Botanic Gardens (Fig. 3). Unfortunately I had missed the flowering phase and the small number of flowers still attached to the spike were either dying or developing into fruits but there was visible fruiting at the top of the spike (Fig. 4). The impressive feature of this flowering event was the height of the inflorescence. I estimated the inflorescence to be about 4.5m tall. González-Elizondo et al (2011) record a flower spike size for this species in the range 4.5–6.5m tall, hence the Glasgow specimen is at the lower end of that range. Also, as shown in Fig. 4, the spike is very slender being a mere 3cm across at the base, tapering very gradually upwards. This contrasts with a range of inflorescence size of 1.5–4.3m given for *A. victoriae-reginae* (González-Elizondo et al, 2011). The flower spike on my specimen of this species at a mere 1.8m was at the lower end of this range. Consequently inflorescence size appears to be another significant difference between these two closely-related species. The inflorescence size of the third member of this species complex, *A. pintilla*, is given as 1.6–4.3m which is closer to that of *A. victoriae-reginae* rather than *A. nickelsiae*.

Earlier I observed that *A. victoriae-reginae* is slow to grow and reach flowering size in a pot (Walker, 2017). Starr (2012) notes that *A. nickelsiae* is also, “one of the slowest growing species”. My largest specimen of this species (Walker, 2017: Fig. 17) is 35cm in diameter and hence not much smaller than the 40cm-diameter specimen at the Glasgow Botanic Gardens. I wonder, therefore, how long I will have to wait for my plant to reach maturity and flower?

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LITERATURE:

González-Elizondo, M S, González-Elizondo, M, López-Enríquez, I L, Reséndiz-Rojas, L, Tena-Flores, J A & Retana-Rentería, F I (2011) El complejo *Agave victoriae-reginae* (Agavaceae). *Acta Bot. Mex.* **95**: 65–94.

Starr, G (2012) *Agaves. Living sculptures for landscapes and containers*. Timber Press, Portland, Oregon/London.

Walker, C C (2017) *Agave victoriae-reginae* and its close relatives. *CactusWorld* **35**(3): 159–166.

Fig. 4 The flower spike of *Agave nickelsiae* with the author providing a sense of scale (Photo: Marjorie Thorburn)

